WHAT IS CLAIMED IS:

1. An apparatus comprising:

(a) an input element,

(b) a movably mounted holding device for holding a plurality of support housings, said device being adapted to receive a support housing from said input element and adapted to index each support housing for a predetermined operation, each of said support housings containing a support having attached thereto a plurality of biopolymer features,

(c) one or more processing stations, and

(d) an output element adapted to receive a support housing from said holding device.

2. An apparatus according to Claim 1 further comprising an element for accessing the support housing.

3. An apparatus according to Claim 2 wherein the support housing comprises a cover and the element for accessing the support housing is a device for removing the cover.

4. An apparatus according to Claim 1 wherein the input element comprises a plurality of shelves.

5. An apparatus according to Claim 4 wherein the input element is adapted to be indexed.

6. An apparatus according to Claim 1 wherein the output element comprises a plurality of shelves.

7. An apparatus according to Claim 6 wherein the output element is adapted to be indexed.

8. An apparatus according to Claim 1 further comprising an element for identifying each of the supports.

9. An apparatus according to Claim 8 wherein the element comprises a bar code reader associated with the input element.

10. An apparatus according to Claim 1 further comprising a device for physically removing unbound materials from the surface of a support within each of the support housings, the device being adapted for receiving a support from the holding device.

11. An apparatus according to Claim 1 wherein said processing stations are fluid dispensing station(s) that dispense and remove fluids.

12. An apparatus according to Claim 1 further comprising means for mixing the fluid on the surface of a support within each of the support housings.

13. An apparatus according to Claim 1 further comprising a central microprocessor-based or microcontroller-based module connected to a plurality of interface modules for controlling elements (a)-(d).

14. An apparatus according to Claim 1 further comprising a plurality of microprocessor-based or microcontroller-based modules for controlling elements (a)-(d), each comprising an individual architectural design and software wherein the individual architectural design and the software are adapted specifically to control a function that each of the modules serves.

15. An apparatus according to Claim 1 wherein the input element is temperature controlled.

16. An apparatus comprising:

(a) an input element, the input element comprising a plurality of package holders, the input element being adapted for temperature control,

(b) a circuitous transport for holding a plurality of packages, each of which contains a support, the surface of which has attached thereto a plurality of polynucleotide features, the circuitous transport being adapted to receive a package from the input element and adapted to index each package for a predetermined operation,

(c) an element for identifying each of the packages,

(d) an element for accessing the packages,

(e) one or more fluid dispensing stations adapted to dispense fluids to, and aspirate fluids from, the supports in the packages on said circuitous transport,

(f) a device for physically removing unbound materials from the surface of a support within each of the packages, the device being adapted for receiving a package from the circuitous transport, and

(g) an output element adapted to receive a package from the circuitous transport, the output element comprising a plurality of package holders.

17. An apparatus according to Claim 16 wherein the packages are covered and the element for accessing the package is a device for removing the cover.

18. An apparatus according to Claim 16 wherein the input element or the output element is adapted to be indexed.

19. An apparatus according to Claim 16 wherein the element for identifying each of the packages comprises a bar code reader associated with the input element.

20. An apparatus according to Claim 16 wherein the device of (f) is adapted to remove unbound materials by an applied force.

21. An apparatus according to Claim 16 further comprising a central microprocessor-based or microcontroller-based module connected to a plurality of interface modules for controlling elements (a)-(g).

22. An apparatus according to Claim 16 further comprising a plurality of microprocessor-based or microcontroller-based modules for controlling elements (a)-(g), each comprising an individual architectural design and software wherein the individual architectural design and the software are adapted specifically to control a function that each of the modules serves.

23. An apparatus according to Claim 16 wherein said circuitous transport is a circular tray.

24. An apparatus comprising:

(a) an input element mounted on a frame, the input element comprising a plurality of shelves, the input element being adapted for temperature control,

(b) a circular tray for holding a plurality of packages, each of which contains a support, the surface of which has attached thereto a plurality of polynucleotide features, the circular tray being movably mounted on the frame and being adapted to receive a package from the input element and adapted to index each package for a predetermined operation, each of the packages comprising a cover and an identification code,

(c) a device, mounted on the frame, for reading the identification code on each of the packages,

(d) an device, mounted on the frame, for removing the cover on each of the packages,

(e) one or more fluid dispensing stations mounted on the frame and adapted to dispense fluids to, and aspirate fluids from, the supports in the packages on the circular tray,

(f) a device adapted to remove unbound materials on the surface of a support within each of the packages, the device being mounted on the frame and adapted for receiving a package from the circular tray,

(g) an output element mounted on the frame and adapted to receive a package from the circular tray, the output element comprising a plurality of shelves, and

(h) a central microprocessor-based or microcontroller-based module

connected to a plurality of interface modules for controlling elements (a)-(g).

25. An apparatus according to Claim 24 wherein the input element is an elevator system.

26. An apparatus according to Claim 24 wherein the output element is an elevator system.

27. An apparatus according to Claim 24 wherein the microprocessor-based or microcontroller-based modules each comprise an individual architectural design and software wherein the individual architectural design and the software are adapted specifically to control a function that each of the modules serves.

28. A method for processing a plurality of samples each of which are present on a support contained within a support housing, the method comprising:

(a) moving each of the support housings to one or more fluid dispensing stations, wherein the surface of each of the supports comprises a plurality of biopolymer features and wherein the location and identity of each of the support housings is indexed,

(b) applying fluid to the surface of each of the supports at the fluid dispensing stations for processing the samples,

(c) aspirating fluid from the surface of each of the supports at the fluid dispensing stations,

(d) moving each of the support housings away from the fluid dispensing stations, and

(e) physically removing residual fluid from each of the supports within the support housings.

29. A method according to Claim 28 wherein the processing is washing.

30. A method according to Claim 28 wherein the supports are present on a movable tray.

31. A method according to Claim 30 wherein the movable tray is a circular tray.

32. A method according to Claim 28 wherein the step of physically removing fluid from each of the supports is accomplished by applying a force thereto.

33. A method for processing a plurality of samples each of which are present on a support contained in a covered package, the method comprising:

(a) moving each of the covered packages from an input element to a movable holding device for holding a plurality of the covered packages, wherein the surface of each of the supports comprises a plurality of polynucleotide features and wherein the input element provides temperature control and wherein the location and identity of each of the covered packages is continuously indexed,

(b) moving the holding device in an indexed manner to move the covered packages to a device for removing covers from the covered packages,

(c) moving the holding device in an indexed manner to deliver each of the packages to one or more fluid dispensing stations,

(d) moving the holding device to deliver each of the packages to a device for physically removing unbound materials from the surface of each of the supports, and

(e) moving the holding device in an indexed manner to deliver each of the packages to an output element.

34. A method according to Claim 33 wherein the covered packages in step (a) are moved to the holding device from an input element comprising a plurality of shelves.

35. A method according to Claim 33 wherein the output element comprises a plurality of shelves.

36. A method according to Claim 33 wherein the covered packages in step (a) are moved to the holding device past an element for identifying each of the packages.

37. A method according to Claim 36 wherein the element for identifying each of the packages comprises a bar code reader associated with the input element.

38. A method according to Claim 33 wherein the device of step (d) is a device in which a force is applied to the unbound materials.

39. A method according to Claim 33 wherein said moving steps (a)-(e) are controlled by a central microprocessor-based or microcontroller-based module connected to a plurality of interface modules.

40. A method according to Claim 33 wherein said moving steps (a)-(e) are controlled by a plurality of microprocessor-based or microcontroller-based modules, each comprising an individual architectural design and software wherein the individual architectural design and the software are adapted specifically to control a function that each of the modules serves.

41. A method according to Claim 33 further comprising subsequent to step (e) examining the surface of each of the supports for the results of the processing of the samples.

42. A method according to Claim 41 further comprising transmitting the results of the processing to a remote location.

43. An apparatus comprising:

(a) a frame,

(b) an input element affixed to the frame,

(c) a holding device for holding a plurality of support housings, the device being adapted to receive a support housing from the input element and adapted to index

each support housing for a predetermined operation, the device being movably mounted on the frame, each of the support housings containing a support having attached thereto a plurality of biopolymer features,

(d) one or more fluid dispensing stations affixed to the frame, and

(e) an output element affixed to the frame, the output element being adapted to receive a support housing from the holding device, wherein said elements (a)-(e) are each controlled by a central microprocessor-based or microcontroller-based module connected to a plurality of interface modules,—; wherein the modules are interconnected by a multi-channel shared bus originating at and supervised by a system controller, which interfaces with a front panel display and operator controls.

44. An apparatus according to Claim 43 wherein said bus makes available to each of said elements: (i) isolated 120V AC power, (ii) common system control signals, (iii) IEEE Std 1194 JTAG scan bus signals, (iv) intra-apparatus data communications network, (v) in-circuit programming, and (vi) DC power.

45. An apparatus comprising:

(a) a frame,

(b) an input element affixed to the frame,

(c) a holding device for holding a plurality of support housings, the device being adapted to receive a support housing from the input element and adapted to index each support housing for a predetermined operation, the device being movably mounted on the frame, each of the support housings containing a support having attached thereto a plurality of biopolymer features,

(d) one or more fluid dispensing stations affixed to the frame, and

(e) an output element affixed to the frame, the output element being adapted to receive a support housing from the holding device,

wherein each of said elements (b)-(e) are controlled by one of a plurality of microprocessor-based or microcontroller-based modules, each comprising an individual architectural design and software wherein the individual architectural design and the software are adapted specifically to control a function that each of the modules serves, wherein the modules are interconnected by a multi-channel shared bus originating at and

supervised by a central system controller, which interfaces with a front panel display and operator controls.

46. An apparatus according to Claim 45 wherein said bus makes available to all of said modules: (i) common system control signals, (ii) IEEE Std 1194 JTAG scan bus signals, (iii) intra-apparatus data communications network, (iv) in-circuit programming bus, and (v) regulated DC power.

47. An apparatus according to Claim 45 wherein said plurality of modules comprise (i) a central system controller, (ii) a communications interface controller, (iii) a system power supply, (iv) a temperature controller, (v) a fluid and valve controller and (vi) a motion/motor controller.

48. A method of exposing an array of biopolymers to a fluid wherein the array is contained in a housing having a cover, said method comprising:

(a) removing the cover of the housing to expose an opening thereof and

(b) applying fluid to the array through the opening.

49. A method according to Claim 48 wherein the housing comprises a well in which liquid can be retained in contact with the array and the well is exposed by removing the cover.

50. A method according to Claim 48 further comprising removing fluid from the housing.

51. A method according to Claim 50 wherein the fluid is removed by aspiration.

52. A method according to Claim 50 wherein the fluid is applied by means of a nozzle and is removed by means of a nozzle.

53. A method according to Claim 52 wherein the nozzle is the same.